THE UNIVERSITY OF CHICAGO MEDICAL CENTER

POLICY NAME: HOT WORK PRECAUTIONS
POLICY NUMBER: S06-21
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REVIEW DATE: AUGUST 19, 2015

PURPOSE:

The policy applies to construction, renovation or maintenance work involving work that uses open flame or produces heat, sparks or conditions that can be an ignition source.

DEFINITIONS

1. Hot work – The use of any device capable of igniting flammable or combustible materials and atmospheres;
2. Open flame – welding, burning, brazing, cutting, grinding, heating element, etc.
3. Non-open flame – the use of electrical tools (e.g. drills – including battery-operated drills), hammers, soldering irons, air-driven tools, and steel-against-steel tools e.g. jackhammers, grinders, chisels and hacksaws. Openings of energized electrical enclosures.
4. Non-classified area – general work areas; areas that do NOT have ignitable gases or vapors may be present in the air in sufficient quantities to produce explosive or ignitable mixtures;
5. Hot work permit - written authorization to perform hot work as detailed below.
6. Fire watch – person(s) maintaining constant check of the area throughout the hot work operation, during breaks and for the designated post-hot work period of 30 to 60 minutes. See also Appendix A for guidance on times.
7. Monitoring period – after the constant fire watch the hot work area is periodically monitored for a designated time up to an additional 3 hours depending on the nature of the operation and residual risks involved. See also Appendix A.

POLICY:

1. All persons performing hot work in The University of Chicago Medical Center (UCM) shall follow the UCM hot work permit procedure as listed on the hot works permit tag, this policy as well as any additional requirements listed in OSHA 1910.252. Violation of this policy may be grounds for disciplinary action.

RESPONSIBILITIES:

1) UCM Plant Manager or UCM/BSD Project Manager overseeing or performing the hot work shall:
   a) Ensure that equipment is safely isolated
   b) Obtain hot work permit form from the Plant shut-down office W025 and complete prior to work
   c) Communicate with Plant any shut down requirements 48 hr. prior to work
   d) Educate contractors on how to comply with this Policy
   e) Sign hot work permit
   f) Perform Fire Watch according to Appendix A
g) Ensure persons performing hot work are knowledgeable of emergency actions (RACER) and the placement and use of a fire extinguisher.

h) Stop hot work in the event of an unsafe condition

i) Report any unsafe or questionable conditions to the Safety Office immediately 5SAFE (on call 188-8382).

j) Be responsible for employing competent contractors and vendors.

k) The person directly supervising the hot work shall monitor all required precautions to see that they are followed and that the fire alarm is activated should a fire result.

2) Plant
   a) Perform shut down of utilities when notified

3) Safety Office
   a) Maintain the Hot work Policy and Procedure.
   b) Provide training content in Oracle
   c) Provide paper Hot work forms
   d) Perform compliance audits
   e) Review hot work forms

**PROCEDURES:**

1. Paper Hot work Permit
   a. UCM hot work permit are available in W025.
   b. The person performing the hot work completely fills out the hot work permit and signs it under the line labeled NAME (PRINT) AND SIGNATURE OF PERSON PERFORMING HOT WORK (first signature of three). This is the contractor doing the work. The hot work permit instructions must be followed.
   c. The Plant department shut-down/hot works coordinator signs to authorize the work (second signature of three).
   d. Permits are good for one day and are to be posted conspicuously at the work site for the duration of the hot work.

4) Open flame hot work in a non-classified area:
   a) See activity-specific fire watch times in Appendix A and fire watch decision tree in Appendix B
      i) All combustible/flammable materials are removed from the hot work area. Combustible or flammable materials that cannot be removed are to be protected. Isolate hot work operations from combustibles by a minimum of 35 ft (11 m) of open space from grade level hot work areas, or use appropriate separation using welding blankets and screens to properly isolate the hot work from the adjacent combustibles. Purge and isolate all transfer lines or vessels containing combustible materials.
      ii) Special caution must be taken in areas where there are floor and wall openings.
      iii) All elevated hot work operations must be evaluated on a case-by-case basis to determine safe separation distances from combustibles.
      iv) Ensure fire detection is active and a fire extinguisher is in place.
      v) A constant, documented fire watch of the area is required for a minimum of 30 minutes. Fire watch documentation forms are located as an Appendix to S06-10.
vi) Where there is a possibility of a fire after the work is complete, the constant fire watch is maintained for a minimum of 30 minutes after completion of the work.

(1) Depending on the type of work being done, refer to Appendix A for extension guidelines

5) Comply with any other relevant safety standard prior to beginning hot work.

6) Closing a Hot works Project

   a) After the monitoring period, the person observing the paper hot work site signs the form under the FIRE WATCH SIGNOFF (third signature of three) and puts the top copy into the Safety office mail slot in M-041.

   i) If the fire watch is extended, a fourth signature is required as the FINAL CHECKUP on the hot work form

**INTERPRETATION, IMPLEMENTATION, AND REVISION:**

The chairperson of the Life Safety Sub-committee of the Institutional Safety Committee shall assess the overall effectiveness of the policy annually with a review of this policy on a regular basis or as needed.

**REFERENCES**

1) OSHA 1910.252 Cutting, Welding and Brazing
2) FM Global Hot works System
3) NFPA 51B

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APPENDIX A
FIRE WATCH AND MONITORING GUIDELINES

1) A constant fire watch should be maintained while hot work is in progress and for a minimum of 30 minutes following the completion of hot work. The Permit Approver should require the post-work constant fire watch to be extended to 60 minutes, or longer, if the residual risk justifies it. After the constant fire watch period the area should be monitored periodically for an additional 30 minutes with ongoing periodic monitoring in 30 minute increments as long as necessary. Post-work fire watch and monitoring periods should be specified in the Hot work Permit according to the following guidelines:

2) The 30 minute constant fire watch following completion of hot work, with no required Monitoring Period following the fire watch, should be employed under the following conditions:
   a) Building construction is noncombustible. No combustible roof or wall features (plastic skylights, plastic light bands, foam plastic insulation (even if metal- or stucco- faced)).
   b) Occupancy is noncombustible
   c) Occupancy is confined to metal hard pipe system/tanks which if flammable/combustible, must be properly drained, cleaned, purged and locked-out.
   d) For all other conditions, a 60 minute minimum constant fire watch following completion of hot work, with an additional minimum period of monitoring thereafter should be employed.

3) Additional fire watch and monitoring times should be employed for special hazard concerns such as:
   a) Combustible construction with concealed spaces in walls, floors, ceilings or roofs.
   b) Storage of bulk combustible materials such as waste paper, baled paper, granular plastic, etc. or other storages where burrowing fires can occur.
   c) Production operations where combustible dust deposits are normally present in significant quantities to allow smoldering fires.

4) Non-open flame hot work in a classified area requires a constant fire watch during work but does not require post work constant fire watch or periodic monitoring.

5) Non-open flame hot work in a non-classified area does not require constant fire watch during work, post work constant fire watch or periodic monitoring.
Figure 1 NFPA 51B-A.5.5.1.Standard for Fire Prevention During Welding, Cutting, and Other Hot Work